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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,794	08/16/2001	William L. Jones	002.0221.01	3670

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EXAMINER
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SCHUBERT, KEVIN R

ART UNIT	PAPER NUMBER
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2137

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/931,794

Applicant(s)

JONES ET AL.

Examiner

Kevin Schubert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-7,9-16,18-24,26-30,32-34,36-37,39-40,42-43,45-46,50-51,55-57,59,61,63,65-66,69,72-78 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☐ Claim(s) 1-7,9-16,18-24,26-30,32-34,36-37,39-40,42-43,45-46,50-51,55-57,59,61,63,65-66,69,72-78 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some \* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) ☐ Interview Summary (PTO-413)

Paper No(s)/Mail Date. \_\_\_\_\_.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: \_\_\_\_\_.

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### DETAILED ACTION

Claims 1-7,9-16,18-24,26-30,32-34,36-37,39-40,42-43,45-46,50-51,55-57,59,61,63,65-66,69, and 72-78 have been considered.

5

#### *Double Patenting*

Claims 1-78 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 38 of copending Application No. 09/931,803. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

10 Claim 38 of Application No. 09/931,803 meets all the limitations of the claims of the instant application except for claims 7,16,24,30,37,43,59, and 63 which deal with symmetric key encryption. These claims are met by claim 37 of Application No. 09/931,803.

A terminal disclaimer needs to be filed to overcome the double patenting rejection.

#### *Claim Rejections - 35 USC § 103*

15 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

20 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25 Claims 1,4,9-10,13,18, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinberg, U.S. Patent No. 6,587,949, in view of Matsushita, European Patent Application No. 00309498.4.

As per claims 1 and 10, the applicant describes a system with the following limitations which are met by Steinberg in view of Matsushita:

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a) recording logic intercepting a substantially continuous video signal representing video content in the process of being recorded on a transportable storage medium (Steinberg: Col 2, lines 22-34);

b) a frame buffer dividing the intercepted substantially continuous video signal into individual frames during recording, each individual frame storing a fixed amount of data in digital form, and

5 combining decrypted frames into a substantially continuous video signal during playback (Matsushita: Col 3, lines 25-52);

c) a processor encrypting each individual frame into encrypted video content using an encryption cryptographic key and storing the encrypted frames during recording and retrieving the encrypted frames and decrypting each encrypted frame using a decryption cryptographic key during playback (Matsushita:

10 Col 3, lines 25-52; Steinberg: Col 4, lines 4-11);

d) reading logic outputting the substantially continuous video signal as video content in the process of being played from the transportable storage medium (Matsushita: Col 3, lines 25-52);

e) a removable storage medium storing at least one of the encryption cryptographic key and the decryption cryptographic key, where the removable storage medium is removable with respect to the

15 transportable storage medium (Steinberg: Col 4, lines 4-11);

Steinberg discloses a cryptographic system for legacy systems in which a transportable storage medium, such as a memory card, is inserted into a video recorder. When the video recorder sends video data to the memory card for storage, the memory card intercepts the data and performs authentication and encryption on the data before it is stored. Steinberg also discloses the use of a removable storage medium (16 of Fig 1), which can be any system capable of receiving data. After recording takes place, the transportable storage medium is taken to the removable storage medium and the two devices are connected through a cord (Col 3, lines 59-61). The two devices which are connected together by a cord are removable with respect to each other. Thus, item 16 of Fig 1 is removable with respect to the transportable storage medium, item 10 of Fig 1. Also, the removable storage medium stores a

20 cryptographic key for use in decrypting the encrypted content. (Col 6, lines 47-48; Col 6, lines 58-59).

Steinberg does not disclose the particular encryption technique commonly used in video data where the data is divided into frames and encrypted frame by frame. This particular encryption technique

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is disclosed by Matsushita. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Matsushita with those of Steinberg because doing so allows for the video data to be encrypted in an organized manner according to frames.

5           As per claims 4 and 13, the applicant describes the system of claim 1 (etc), which is met by Steinberg in view of Matsushita, with the following limitation which is also met by Steinberg:

A validation module validating the decryption cryptographic key against user-provided credentials prior to decrypting the encrypted frames (Steinberg: Col 5, lines 52-57).

10           As per claims 9 and 18, the applicant describes the system of claim 1, with the following limitation which is also met by Steinberg:

A set of cryptographic instructions stored on the removable storage medium and employing at least one of the encryption cryptographic key and the decryption cryptographic key (Col 4, lines 4-11).

15           As per claim 73, the applicant describes the system of claim 1, which is met by Steinberg in view of Matsushita, with the following limitation which is met by Steinberg:

Wherein the removable storage medium includes memory that is coupled to a standardized connector which enables utilization of at least one of a plurality of encryption cryptographic keys and a plurality of decryption cryptographic keys (Steinberg: Col 3, lines 59-61; Col 4, lines 4-11);

20           The connector is the cord.

Claims 2-3,5-7,11-12,14-16,19-24,26-30,32-34,36-37,39-40,42-43,45-46,50-51,55-57,59,61,63,65-66,69,72, and 74-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinberg in view of Matsushita in further view of Friedman, U.S. Patent No. 5,499,294.

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As per claim 2, 11, 20-21, 26-27, 33-34, 39-40, 46, 50-51, 57, 61, 66, 69, and 74-77, the applicant describes a method with the following limitations which are met by Steinberg in view of Matsushita in further view of Friedman:

- a) recording logic intercepting a substantially continuous video signal representing video content in the process of being recorded on a transportable storage medium (Steinberg: Col 2, lines 22-34);
- b) a frame buffer dividing a substantially continuous video signal representing raw video content into individual frames which each store a fixed amount of data in digital form and combining the individual frames into a substantially continuous video signal (Matsushita: Col 3, lines 25-52);
- c) a processor generating a fixed-length original cryptographic hash from at least one such individual frame, encrypting the original cryptographic hash using an encryption cryptographic key, storing the encrypted original cryptographic hash as a digital signature on a transportable storage medium, retrieving the digital signature from the transportable storage medium, decrypting the encrypted original cryptographic hash using a decryption cryptographic key, generating a verification fixed-length cryptographic hash from at least one such individual frame, and comparing the verification cryptographic hash and the original cryptographic hash (Steinberg: Col 7, lines 4-20; Friedman: Col 4, line 63 to Col 5, line 14; Col 5, lines 49-65);
- d) reading logic outputting the substantially continuous video signal as video content in the process of being played from the transportable storage medium upon successful comparison of the verification cryptographic hash and the original cryptographic hash (Matsushita: Col 3, lines 25-52; Friedman: Col 10, lines 8-15);
- e) a removable storage medium storing at least one of the encryption cryptographic key and the decryption cryptographic key, where the removable storage medium is removable with respect to the transportable storage medium (Steinberg: Col 4, lines 4-11);

Steinberg discloses the use of computing a hash as authentication data on the transportable storage medium. The removable storage medium can compute a second hash and compare it with the original hash to determine whether the data is authentic or whether it has been altered. However, Steinberg does not disclose that the hash is computed from at least one frame. Friedman discloses a

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similar process whereby hashes are made on individual frames. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Friedman with those of Steinberg and have a hash computed on an individual frame because doing so provides an organized way for the information to be hashed.

5           The applicant should note that Friedman also discloses the idea that content is reproduced upon successful comparison of the hashes as disclosed in part d) above (Friedman: Col 10, lines 8-15). The applicant should also note that the use of public key cryptography is disclosed by Friedman (Friedman: Abstract).

10           As per claims 3,5-7,12,14-16,22-24,28-30,36-37,42-43,55,59, and 63, the applicant describes the method of claim 2 (etc), which is met by Steinberg in view of Matsushita in further view of Friedman, with the following limitation which is met by Friedman:

Further comprising an asymmetric cryptographic key pair comprising a private key corresponding to the encryption cryptographic key and a public key corresponding to the encryption decryption key

15 (Friedman: Col 2, lines 2-59);

The use of both symmetric and asymmetric cryptography is disclosed by Friedman.

As per claims 19,32,45,56,65, and 72, the applicant describes the method according to claim 10 (etc), which is met by Steinberg in view of Matsushita in further view of Friedman, with the following

20 limitation which is met by Steinberg:

A computer-readable storage medium holding code (Steinberg: Col 2, lines 3-7).

Claim 78 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steinberg in view of Matsushita in further view of Yuen.

25

As per claim 78, the applicant describes the system of claim 1, which is met by Steinberg in view of Matsushita, with the following limitation which is met by Yuen:

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Wherein the removable storage medium is removably coupled to a video tape cassette (Yuen: Col 5, lines 11-14).

Steinberg in view of Matsushita discloses all the limitations of claim 1. However, Steinberg in view of Matsushita fails to disclose that the transportable storage medium, which is coupled to the removable storage medium, is specifically a video tape cassette.

Yuen discloses the commonly known idea that a video tape cassette can be used to store information recorded from a video recorder. It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Yuen with those of Steinberg in view of Matsushita and incorporate the use of a video tape cassette as the transportable storage medium because a video tape cassette is a common storage medium for storing data from a video recorder.

### ***Response to Arguments***

Applicant's arguments, see Remarks, filed 4/28/05, with respect to the 112 rejection from "substantially" have been fully considered and are persuasive. The 112 rejection of claims 1,7,10,16,20,24,26,30,33,34,37,39,43,46,51,57,59,61,63,66, and 69 has been withdrawn.

Applicant's arguments with respect to claim 1,4-10,13-20,23-26,29-33,36-39, and 42-45 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action



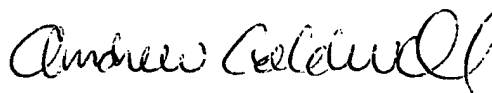
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is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should  
5 be directed to Kevin Schubert whose telephone number is (571) 272-4239. The examiner can normally be reached on M-F 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC)  
15 at 866-217-9197 (toll-free).



ANDREW CALDWELL  
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